

REMARKS

This application has been carefully reviewed in light of the final Office Action dated December 24, 2008. Claims 1 and 2 are in the application, with Claims 3 to 10 and 12 having been cancelled herein. Claim 1 is the only independent claim. Reconsideration and further examination are respectfully requested.

Claims 1, 2, 5 to 10 and 12 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,525,888 (Toya) in view of U.S. Patent No. 5,631,677 (Horigome). Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) over Toya in view of Horigome and further in view of U.S. Patent No. 6,563,766 (Nakamiya). Reconsideration and withdrawal of the rejections are respectfully requested.

The invention of independent Claim 1 generally concerns an electric charging apparatus being attachable to a printer that is driven with electric power supplied from the electric charging apparatus while the electric charging apparatus is attached to the printer. Among many features, Claim 1 includes the features of the electric charging apparatus having an electric power input unit configured to input a driving voltage based on a commercial power source, and a power source relay unit configured to output a higher voltage of the driving voltage output by the electric power input unit and an output voltage of a battery. Claim 1 further includes the feature of a reception unit configured to receive, from the printer, residual capacity information corresponding to a battery residual capacity of the battery, in a case that the electric charging apparatus is attached to the printer and the power source relay unit outputs the output voltage from the battery.

Referring specifically to claim language, amended independent Claim 1 is directed to an electric charging apparatus being attachable to a printer that is driven with

electric power supplied from the electric charging apparatus while the electric charging apparatus is attached to the printer. The electric charging apparatus includes a battery, an electric power input unit configured to input a driving voltage based on a commercial power source, and a power source relay unit configured to output a higher voltage of the driving voltage output by the electric power input unit and an output voltage of the battery. The electric charging apparatus further includes a terminal configured to supply the voltage output from the power source relay unit to the printer while the electric charging apparatus is attached to the printer, and a reception unit configured to receive, from the printer, residual capacity information corresponding to a battery residual capacity of the battery, in a case that the electric charging apparatus is attached to the printer and the power source relay unit outputs the output voltage from the battery. The electric charging apparatus also includes a display unit configured to display the battery residual capacity of the battery, and a display control unit configured to cause the display unit to display the battery residual capacity of the battery based on the residual capacity information received from the printer by the reception unit. The residual capacity of the battery is detected by the printer based on the electric power being supplied via the terminal from the power source relay unit to the printer while the electric charging apparatus is attached to the printer.

The applied art, alone or in any permissible combination, is not seen to disclose or suggest the features of Claim 1, and in particular, is not seen to disclose or suggest at least the features of an electric charging apparatus having an electric power input unit configured to input a driving voltage based on a commercial power source, a power source relay unit configured to output a higher voltage of the driving voltage output by the electric power input unit and an output voltage of a battery, and a reception unit configured

to receive, from a printer, residual capacity information corresponding to a battery residual capacity of the battery, in a case that the electric charging apparatus is attached to the printer and the power source relay unit outputs the output voltage from the battery.

In this regard, Toya is seen to disclose that a battery charger holds a battery pack for supplying power to electronic equipment to which it is attached and charges the battery pack. (See column 2, lines 20 to 25 of Toya). In addition, the battery pack discharge current is measured by a current detection means, and a remaining battery pack capacity is computed by a microcomputer based on measured results. (See column 5, lines 15 to 18 of Toya). The microcomputer shares this battery information with a portable telephone microcomputer through communication terminals. (See Figure 3 and column 5, lines 3 to 7 of Toya). However, Toya is not seen to disclose a reception unit configured to receive, from a printer, residual capacity information corresponding to a battery residual capacity of a battery, in a case that an electric charging apparatus is attached to a printer and a power source relay unit outputs the output voltage from the battery.

Furthermore, pages 7 and 8 of the Office Action concede that Toya does not disclose “power source relay means for the driving voltage inputted by said electric power input, in addition to the output voltage from the battery”, and does not disclose “wherein said power source relay means selects [a] higher one of the output voltage from the battery and the driving voltage from the said electric power input means, and supplies the selected voltage”. Applicant agrees, and further submits that in the context of the amended claim language, Toya therefore also cannot disclose or suggest an electric charging apparatus having a power source relay unit configured to output a higher voltage of a driving voltage output by an electric power input unit and an output voltage of a battery. Nevertheless, the

Office Action asserts that Horigome (Figure 3 and column 6, lines 7 to 16) and Nakamiya (Figure 1 and column 9, lines 19 to 35) disclose the above-described power source relay means features.

However, the cited portions of Horigome are merely seen to disclose that a power supply unit includes an AC adapter and a battery which serve as driving power supplies of an ink-jet printing apparatus. (See column 6, lines 5 to 9 of Horigome). The power-supply unit further includes a supply changeover unit, which uses a power-supply jack or the like, for selecting either of these two driving power supplies, and a power-supply voltage detecting circuit for detecting the output voltage of the driving power supply and sending an output signal to an input port. (See column 6, lines 9 to 16 of Horigome). However, Horigome is not seen to disclose an electric charging apparatus having a power source relay unit configured to output a higher voltage of a driving voltage output by an electric power input unit and an output voltage of a battery.

Moreover, the cited portions of Nakamiya are seen to disclose a power generation unit which includes a power generating device, a revolving weight, and an accelerating gear. The power generating device is an electromagnetic induction-type alternating current power generating device in which a power generating rotor revolves within a power generating stator so as to output a power induced in a power generating coil connected to the power generating stator. (See column 9, lines 19 to 26 of Nakamiya). However, Nakamiya is not seen to disclose an electric charging apparatus having a power source relay unit configured to output a higher voltage of a driving voltage output by an electric power input unit and an output voltage of a battery.

In addition, neither Horigome nor Nakamiya is seen to disclose a reception unit configured to receive, from a printer, residual capacity information corresponding to a battery residual capacity of a battery, in a case that an electric charging apparatus is attached to a printer and a power source relay unit outputs the output voltage from the battery.

Therefore, the combined references of Toya, Horigome and Nakamiya, assuming that such could be combined, are not seen to disclose or suggest the features of an electric charging apparatus having an electric power input unit configured to input a driving voltage based on a commercial power source, a power source relay unit configured to output a higher voltage of the driving voltage output by the electric power input unit and an output voltage of a battery, and a reception unit configured to receive, from a printer, residual capacity information corresponding to a battery residual capacity of the battery, in a case that the electric charging apparatus is attached to the printer and the power source relay unit outputs the output voltage from the battery.

Accordingly, Claim 1 is believed to be in condition for allowance and such action is respectfully requested.

The other claim in the application is dependent from the independent claim discussed above and is therefore believed to be allowable over the applied art for the same reasons. Because the dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa,
California office at (714) 540-8700. All correspondence should continue to be directed to
our below-listed address.

Respectfully submitted,

/Edward A. Kmett/
Edward A. Kmett
Attorney for Applicant
Registration No.: 42,746

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200

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